

FIG. 1

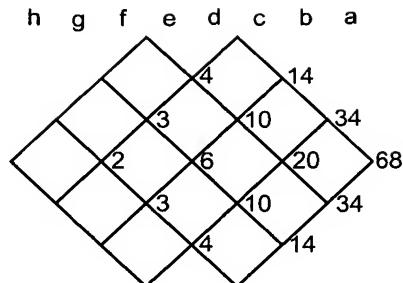


FIG.2

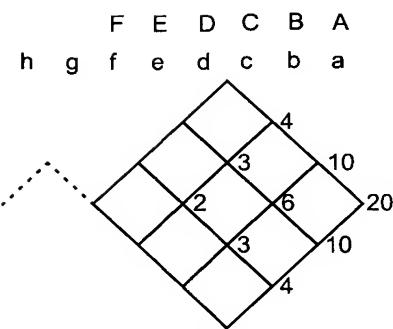


FIG.3

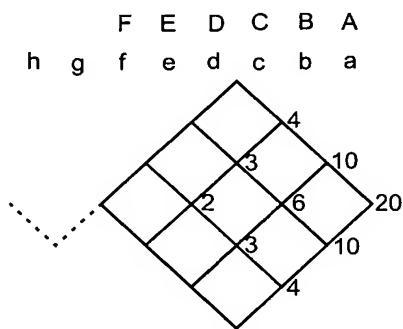


FIG. 4

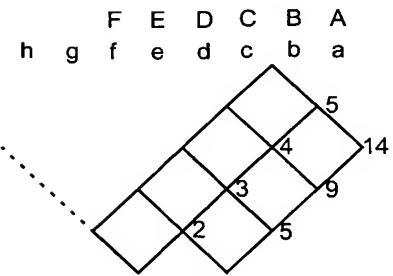


FIG. 5

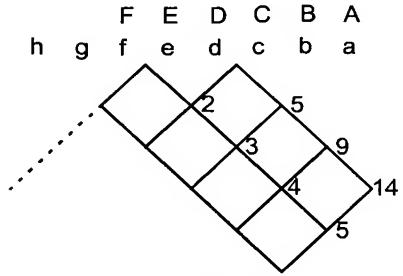


FIG. 6

48 Encoded Vectors with no Changes

FIG. 3		FIG. 5		FIG. 6	
Name	hgfedcba	Name	hgfedcba	Name	hgfedcba
D207	100001111	D027	000101111	D303	110000111
D213	100010111	D033	000110111	D305	110001011
D215	100011011	D035	000111011	D306	110001101
D216	100011100	D036	000111100	D311	110010011
D223	100100111	D047	001001111	D312	110010101
D225	100101011	D053	001010111	D314	110011000
D226	100101100	D055	001011011	D321	110100011
D231	100110011	D056	001011100	D322	110100010
D232	100110100	D063	001100111	D324	110101000
D234	100111000	D065	001101011	D330	110110000
D243	101000111	D066	001101110	D341	111000001
D245	101001011	D071	001110001	D342	111000010
D246	101001100	D072	001110100	D344	111001000
D251	101010011	D074	001111000	D350	111010000
D252	101010100				
D254	101011000				
D261	101100011				
D262	101100100				
D264	101101000				
D270	101110000				

FIG. 7

20 Encoded Vectors of FIG. 4 with individual Bit Changes

Name	K FEDCBA	Name	hgfedcba	Name	K FEDCBA	Name	hgfedcba
D00	0 0000000	D131	010 <u>1</u> 100 <u>1</u>	D77	0 1111111	D146	011 <u>0</u> 011 <u>0</u>
D01	0 0000001	D161	01 <u>1</u> 10001	D76	0 1111110	D116	01 <u>0</u> 01110
D02	0 0000010	D162	01 <u>1</u> 10010	D75	0 1111101	D115	01 <u>0</u> 01101
D04	0 0001000	D145	01 <u>1</u> 0010 <u>1</u>	D73	0 1110111	D132	01 <u>0</u> 1101 <u>0</u>
D10	0 0010000	D151	01 <u>1</u> 0100 <u>1</u>	D67	0 1101111	D126	01 <u>0</u> 1011 <u>0</u>
D20	0 0100000	D123	010100 <u>1</u> 1	D57	0 1011111	D154	011011 <u>1</u> 0
D40	0 1000000	D143	011000 <u>1</u> 1	D37	0 0111111	D134	010111 <u>1</u> 0
D60	0 1100000	D164	01110 <u>1</u> 00	D17	0 0011111	D113	01001 <u>0</u> 11
K07	1 0001111	K107	010001111	K70	1 1110000	K170	011110000
K25	1 0101011	K125	010101011	K52	1 10101010	K152	0110101010

FIG. 8

6B/8B Code

Name	K FEDCBA	Name	hgfedcba	Name	K FEDCBA	Name	hgfedcba
D00	0 000000	D131	010 <u>11001</u>	D42	0 100010	D342	11100010
D01	0 000001	D161	01 <u>110001</u>	D43	0 100011	D243	10100011
D02	0 000010	D162	01 <u>110010</u>	D44	0 100100	D344	11100100
D03	0 000011	D303	11000011	D45	0 100101	D245	10100101
D04	0 000100	D145	01 <u>100101</u>	D46	0 100110	D246	10100110
D05	0 000101	D305	11000101	D47	0 100111	D047	00100111
D06	0 000110	D306	11000110	D50	0 101000	D350	11101000
D07	0 000111	D207	10000111	D51	0 101001	D251	10101001
D10	0 001000	D151	01 <u>101001</u>	D52	0 101010	D252	10101010
D11	0 001001	D311	11001001	D53	0 101011	D053	00101011
D12	0 001010	D312	11001010	D54	0 101100	D254	10101100
D13	0 001011	D213	10001011	D55	0 101101	D055	00101101
D14	0 001100	D314	11001100	D56	0 101110	D056	00101110
D15	0 001101	D215	10001101	D57	0 101111	D154	011011 <u>00</u>
D16	0 001110	D216	10001110	D60	0 110000	D164	01110 <u>100</u>
D17	0 001111	D113	01001 <u>011</u>	D61	0 110001	D261	10110001
D20	0 010000	D123	010100 <u>11</u>	D62	0 110010	D262	10110010
D21	0 010001	D321	11010001	D63	0 110011	D063	00110011
D22	0 010010	D322	11010010	D64	0 110100	D264	10110100
D23	0 010011	D223	10010011	D65	0 110101	D065	00110101
D24	0 010100	D324	11010100	D66	0 110110	D066	00110110
D25	0 010101	D225	10010101	D67	0 110111	D126	01 <u>010110</u>
D26	0 010110	D226	10010110	D70	0 111000	D270	10111000
D27	0 010111	D027	00010111	D71	0 111001	D071	00111001
D30	0 011000	D330	11011000	D72	0 111010	D072	00111010
D31	0 011001	D231	10011001	D73	0 111011	D132	01 <u>011010</u>
D32	0 011010	D232	10011010	D74	0 111100	D074	00111100
D33	0 011011	D033	00011011	D75	0 111101	D115	01 <u>001101</u>
D34	0 011100	D234	10011100	D76	0 111110	D116	01 <u>001110</u>
D35	0 011101	D035	00011101	D77	0 111111	D146	011 <u>001110</u>
D36	0 011110	D036	00011110	K07	1 000111	K107	01000111
D37	0 011111	D134	010111 <u>00</u>	K25	1 010101	K125	01010101
D40	0 100000	D143	011000 <u>11</u>	K52	1 101010	K152	01101010
D41	0 100001	D341	11100001	K70	1 111000	K170	01111000

FIG. 9

a-bit Encoding

Name	K FEDCBA	Coding Label	a	Name	K FEDCBA	Coding Label	a
D00	x 000000	$\bar{A}' \cdot B' \cdot C' \cdot D' \cdot E' \cdot F'$	1	D77	x 111111	$\bar{A} \cdot B \cdot C \cdot D \cdot E \cdot F$	0
D04	x 000100	$\bar{A}' \cdot B' \cdot E' \cdot F' \cdot C \neq D$	1	D73	x 111011	$\bar{A} \cdot B \cdot E \cdot F \cdot C \neq D$	0
D10	x 001000	$\bar{A}' \cdot B' \cdot E' \cdot F' \cdot C \neq D$	1	D67	x 110111	$\bar{A} \cdot B \cdot E \cdot F \cdot C \neq D$	0
D20	x 010000	$\bar{A}' \cdot B' \cdot C' \cdot D' \cdot E \neq F$	1	D57	x 101111	$\bar{A} \cdot B \cdot C \cdot D \cdot E \neq F$	0
D40	x 100000	$\bar{A}' \cdot B' \cdot C' \cdot D' \cdot E \neq F$	1	D37	x 011111	$\bar{A} \cdot B \cdot C \cdot D \cdot E \neq F$	0

FIG. 10A

b-bit Encoding

Name	K FEDCBA	Coding Label	b	Name	K FEDCBA	Coding Label	b
D20	x 010000	$A' \cdot \bar{B}' \cdot C' \cdot D' \cdot E \neq F$	1	D57	x 101111	$A \cdot \bar{B} \cdot C \cdot D \cdot E \neq F$	0
D40	x 100000	$A' \cdot \bar{B}' \cdot C' \cdot D' \cdot E \neq F$	1	D37	x 011111	$A \cdot \bar{B} \cdot C \cdot D \cdot E \neq F$	0

FIG. 10B

c-bit Encoding

Name	K FEDCBA	Coding Label	c	Name	K FEDCBA	Coding Label	c
D60	x 110000	$A' \cdot B' \cdot D' \cdot E \cdot F$	1	D17	x 001111	$A \cdot B \cdot D \cdot E' \cdot F$	0

FIG. 10C

d-bit Encoding

Name	K FEDCBA	Coding Label	d	Name	K FEDCBA	Coding Label	d
D00	x 000000	$A' \cdot B' \cdot C' \cdot \bar{D}' \cdot E' \cdot F'$	1	D77	x 111111	$A \cdot B \cdot C \cdot \bar{D} \cdot E \cdot F$	0

FIG. 10D

e-bit Encoding

Name	K FEDCBA	Coding Label	e	Name	K FEDCBA	Coding Label	e
D00	x 000000	$A' \cdot B' \cdot C' \cdot D' \cdot \bar{E}' \cdot F'$	1	D77	x 111111	$A \cdot B \cdot C \cdot D \cdot \bar{E} \cdot F$	0
D01	x 000001	$C' \cdot D' \cdot \bar{E}' \cdot F' \cdot A \neq B$	1	D76	x 111110	$C \cdot D \cdot \bar{E} \cdot F \cdot A \neq B$	0
D02	x 000010	$C' \cdot D' \cdot \bar{E}' \cdot F' \cdot A \neq B$	1	D75	x 111101	$C \cdot D \cdot \bar{E} \cdot F \cdot A \neq B$	0

FIG. 10E

f-bit Encoding

Name	K FEDCBA	Coding Label	f	Name	K FEDCBA	Coding Label	f
D01	x 000001	$C' \cdot D' \cdot E' \cdot \bar{F}' \cdot A \neq B$	1	D76	x 111110	$C \cdot D \cdot E \cdot \bar{F} \cdot A \neq B$	0
D02	x 000010	$C' \cdot D' \cdot E' \cdot \bar{F}' \cdot A \neq B$	1	D75	x 111101	$C \cdot D \cdot E \cdot \bar{F} \cdot A \neq B$	0
D04	x 000100	$A' \cdot B' \cdot E' \cdot \bar{F}' \cdot C \neq D$	1	D73	x 110111	$A' \cdot B \cdot E \cdot \bar{F} \cdot C \neq D$	0
D10	x 001000	$A' \cdot B' \cdot E' \cdot \bar{F}' \cdot C \neq D$	1	D67	x 110111	$A' \cdot B \cdot E \cdot \bar{F} \cdot C \neq D$	0

FIG. 10F

g-bit Encoding

Name	K FEDCBA	Coding Label	g	Name	K FEDCBA	Coding Label	g
D00	x 000000	$A' \cdot B' \cdot C' \cdot (D' + E' + F')$	1	*D00	x 000000	$(A' + B' + C') \cdot D' \cdot E' \cdot F'$	1
D10	x 001000	$A' \cdot B' \cdot C' \cdot (D' + E' + F')$	1	D01	x 000001	$(A' + B' + C') \cdot D' \cdot E' \cdot F'$	1
D20	x 010000	$A' \cdot B' \cdot C' \cdot (D' + E' + F')$	1	D02	x 000010	$(A' + B' + C') \cdot D' \cdot E' \cdot F'$	1
D30	x 011000	$A' \cdot B' \cdot C' \cdot (D' + E' + F')$	1	D03	x 000011	$(A' + B' + C') \cdot D' \cdot E' \cdot F'$	1
D40	x 100000	$A' \cdot B' \cdot C' \cdot (D' + E' + F')$	1	D04	x 000100	$(A' + B' + C') \cdot D' \cdot E' \cdot F'$	1
D50	x 101000	$A' \cdot B' \cdot C' \cdot (D' + E' + F')$	1	D05	x 000101	$(A' + B' + C') \cdot D' \cdot E' \cdot F'$	1
D60	x 110000	$A' \cdot B' \cdot C' \cdot (D' + E' + F')$	1	D06	x 000110	$(A' + B' + C') \cdot D' \cdot E' \cdot F'$	1
D11	x 001001	$(A' \cdot B' + A' \cdot C + B' \cdot C') \cdot E' \cdot F'$	1	D17	x 001111	$A \cdot B \cdot C \cdot D$	1
D12	x 001010	$(A' \cdot B' + A' \cdot C + B' \cdot C') \cdot E' \cdot F'$	1	D37	x 011111	$A \cdot B \cdot C \cdot D$	1
D14	x 001100	$(A' \cdot B' + A' \cdot C + B' \cdot C') \cdot E' \cdot F'$	1	D57	x 101111	$A \cdot B \cdot C \cdot D$	1
D21	x 010001	$(A' \cdot B' + A' \cdot C + B' \cdot C') \cdot D' \cdot F'$	1	D77	x 111111	$A \cdot B \cdot C \cdot D$	1
D22	x 010010	$(A' \cdot B' + A' \cdot C + B' \cdot C') \cdot D' \cdot F'$	1	D75	x 111101	$C \cdot D \cdot E \cdot F \cdot A \neq B$	1
D24	x 010100	$(A' \cdot B' + A' \cdot C + B' \cdot C') \cdot D' \cdot F'$	1	D76	x 111110	$C \cdot D \cdot E \cdot F \cdot A \neq B$	1
D41	x 100001	$(A' \cdot B' + A' \cdot C + B' \cdot C') \cdot D' \cdot E'$	1	D67	x 110111	$A \cdot B \cdot E \cdot F \cdot C \neq D$	1
D42	x 100010	$(A' \cdot B' + A' \cdot C + B' \cdot C') \cdot D' \cdot E'$	1	D73	x 111011	$A \cdot B \cdot E \cdot F \cdot C \neq D$	1
D44	x 100100	$(A' \cdot B' + A' \cdot C + B' \cdot C') \cdot D' \cdot E'$	1	K07	1 000111	K	1
*D00	x 000000		1	K25	1 010101	K	1
*D01	x 000001		1	K52	1 101010	K	1
*D02	x 000010		1	K70	1 111000	K	1
*D04	x 000100		1				
*D10	x 001000		1				
*D20	x 010000		1				
*D40	x 100000		1				

FIG. 10G

h-bit Encoding

Name	K FEDCBA	Coding Label	h	Name	K FEDCBA	Coding Label	h
D17	x 001111	A•B•C•(D+E+F)	0	D71	x 111001	(A+B+C)•D•E•F	0
D27	x 010111	A•B•C•(D+E+F)	0	D72	x 111010	(A+B+C)•D•E•F	0
D37	x 011111	A•B•C•(D+E+F)	0	D73	x 111011	(A+B+C)•D•E•F	0
D47	x 100111	A•B•C•(D+E+F)	0	D74	x 111100	(A+B+C)•D•E•F	0
D57	x 101111	A•B•C•(D+E+F)	0	D75	x 111101	(A+B+C)•D•E•F	0
D67	x 110111	A•B•C•(D+E+F)	0	D76	x 111110	(A+B+C)•D•E•F	0
D77	x 111111	A•B•C•(D+E+F)	0	*D77	x 111111	(A+B+C)•D•E•F	0
D33	x 011011	(A•B+A•C+B•C)•D•E	0	D00	x 000000	A'•B'•C'•D'	0
D35	x 011101	(A•B+A•C+B•C)•D•E	0	D20	x 010000	A'•B'•C'•D'	0
D36	x 011110	(A•B+A•C+B•C)•D•E	0	D40	x 100000	A'•B'•C'•D'	0
D53	x 101011	(A•B+A•C+B•C)•D•F	0	D60	x 110000	A'•B'•C'•D'	0
D55	x 101101	(A•B+A•C+B•C)•D•F	0	D01	x 000001	C'•D'•E'•F'•A≠B	0
D56	x 101110	(A•B+A•C+B•C)•D•F	0	D02	x 000010	C'•D'•E'•F'•A≠B	0
D63	x 110011	(A•B+A•C+B•C)•E•F	0	D04	x 000100	A'•B'•E'•F'•C≠D	0
D65	x 110101	(A•B+A•C+B•C)•E•F	0	D10	x 001000	A'•B'•E'•F'•C≠D	0
D66	x 110110	(A•B+A•C+B•C)•E•F	0	K07	1 000111	K	0
*D37	x 011111		0	K25	1 010101	K	0
*D57	x 101111		0	K52	1 101010	K	0
*D67	x 110111			K70	1 111000	K	0
*D73	x 111011						
*D75	x 111101						
*D76	x 111110						
*D77	x 111111						

FIG. 10H

A-bit Decoding

Name	hgfedcba	Coding Label	AK	Name	hgfedcba	Coding Label	AK
D131	01011001	a•b'•c'•d•e•f'•g•h'	00	D146	01100110	a'•b•c•d'•e'•f•g•h'	10
D145	01100101	a•b'•e'•f•g•h'•c≠d	00	D132	01011010	a'•b•e•f'•g•h'•c≠d	10
D151	01101001	a•b'•e'•f•g•h'•c≠d	00	D126	01010110	a'•b•e•f'•g•h'•c≠d	10
D123	01010011	a•b•c'•d'•g•h'•e≠f	00	D154	01101100	a'•b'•c•d•g•h'•e≠f	10
D143	01100011	a•b•c'•d'•g•h'•e≠f	00	D134	01011100	a'•b'•c•d•g•h'•e≠f	10

FIG. 12A

B-bit Decoding

Name	hgfedcba	Coding Label	BK	Name	hgfedcba	Coding Label	BK
D123	01010011	a•b'•c'•d'•g•h'•e≠f	00	D154	01101100	a'•b'•c•d•g•h'•e≠f	10
D143	01100011	a•b'•c'•d'•g•h'•e≠f	00	D134	01011100	a'•b'•c•d•g•h'•e≠f	10

FIG. 12B

C-bit Decoding

Name	hgfedcba	Coding Label	CK	Name	hgfedcba	Coding Label	CK
D164	01110100	a'•b'•d'•e'•f•g•h'	00	D113	01001011	a•b•d•e'•f'•g•h'	10

FIG. 12C

D-bit Decoding

Name	hgfedcba	Coding Label	DK	Name	hgfedcba	Coding Label	DK
D131	01011001	a•b'•c'•d'•e'•f•g•h'	00	D146	01100110	a'•b•c•d'•e'•f•g•h'	10

FIG. 12D

E-bit Decoding

Name	hgfedcba	Coding Label	EK	Name	hgfedcba	Coding Label	EK
D131	01011001	a•b'•c'•d'•e'•f•g•h'	00	D146	01100110	a'•b•c•d'•e'•f•g•h'	10
D161	01110001	c'•d'•e'•f•g•h'•a≠b	00	D116	01001110	c•d•e'•f'•g•h'•a≠b	10
D162	01110010	c'•d'•e'•f•g•h'•a≠b	00	D115	01001101	c•d•e'•f'•g•h'•a≠b	10

FIG. 12E

F-bit Decoding

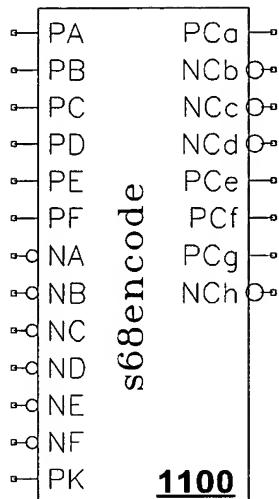
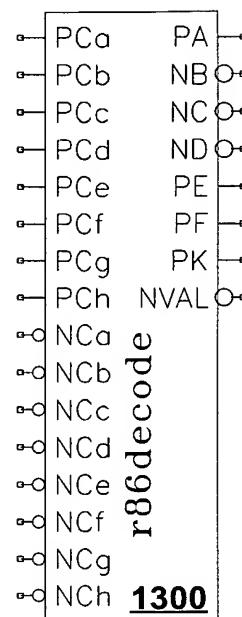
Name	hgfedcba	Coding Label	FK	Name	hgfedcba	Coding Label	FK
D161	01110001	c'•d'•e'•f•g•h'•a≠b	00	D116	01001110	c•d•e'•f'•g•h'•a≠b	10
D162	01110010	c'•d'•e'•f•g•h'•a≠b	00	D115	01001101	c•d•e'•f'•g•h'•a≠b	10
D145	01100101	a•b'•e'•f•g•h'•c≠d	00	D132	01011010	a'•b•e•f'•g•h'•c≠d	10
D151	01101001	a•b'•e'•f•g•h'•c≠d	00	D126	01010110	a'•b•e•f'•g•h'•c≠d	10

FIG. 12F

K-bit Decoding

Name	hgfedcba	Coding Label	K	Name	hgfedcba	Coding Label	K
K107	01000111	a•c•d'•f'•g•h'•b≠e	1	K170	01111000	a'•c'•d•f•g•h'•b≠e	1
K125	01010101	a•c•d'•f'•g•h'•b≠e	1	K152	01101010	a'•c'•d•f•g•h'•b≠e	1

FIG. 12G

**FIG. 11A****FIG. 13A**

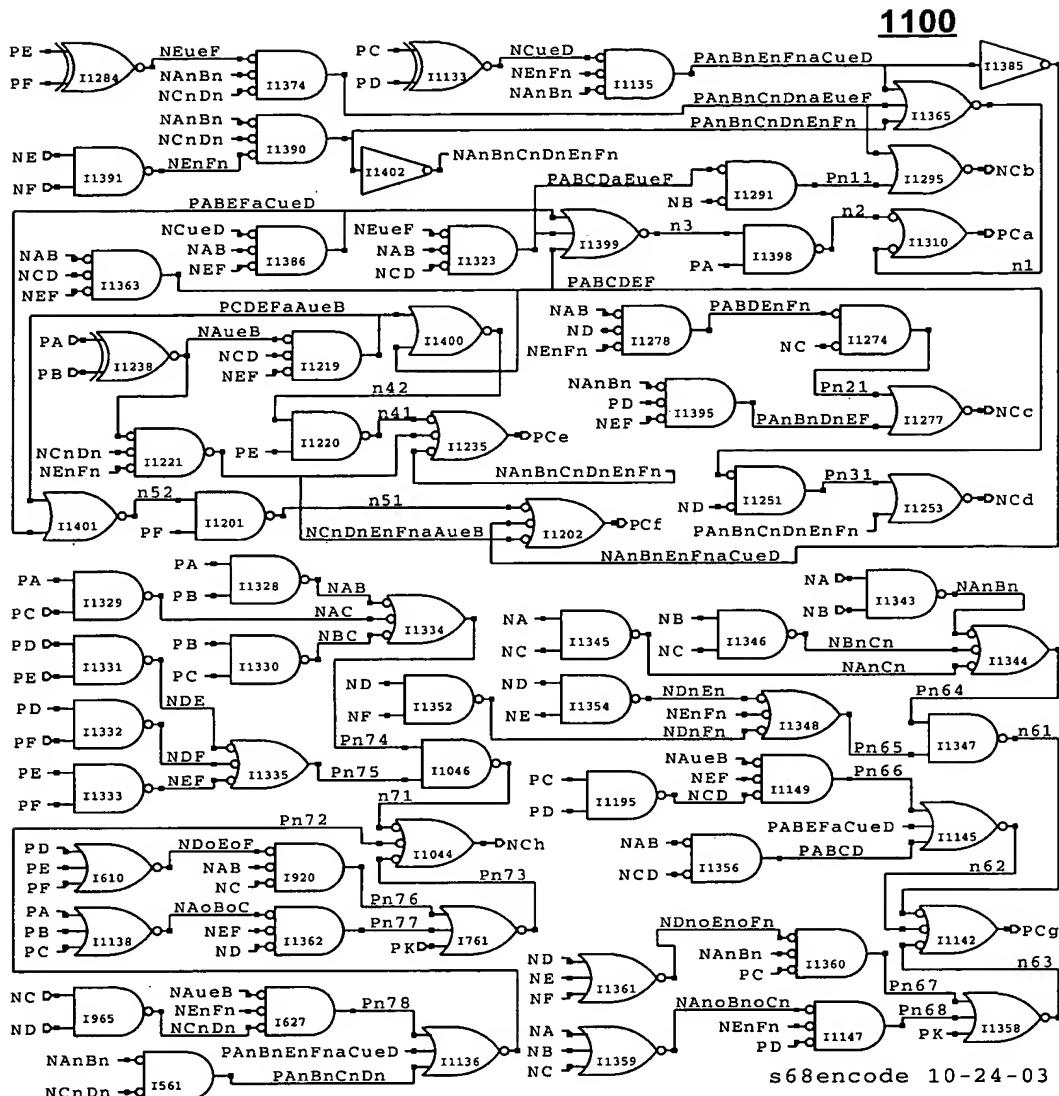


FIG. 11B

1300

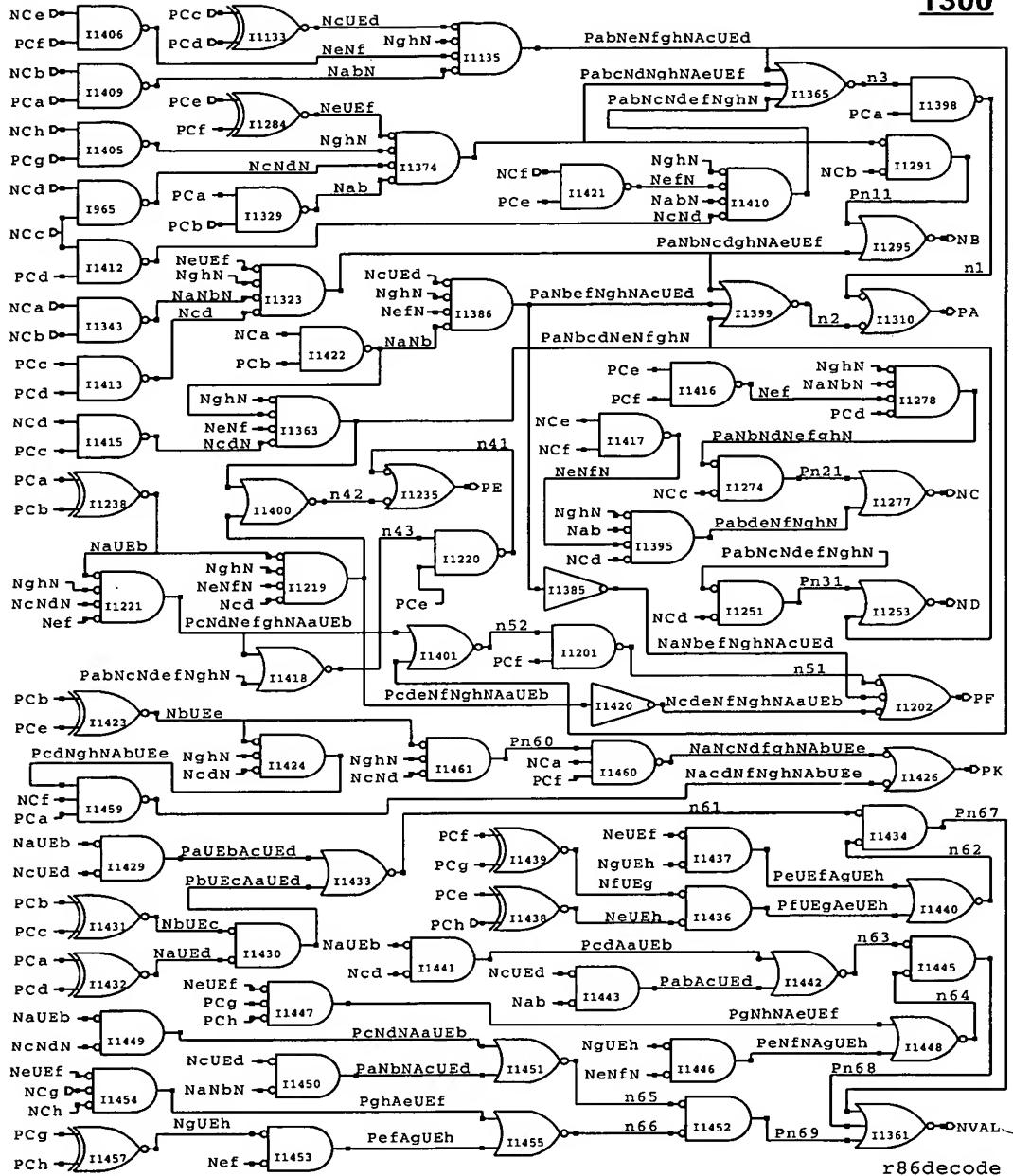


FIG. 13B